



**STRONG START
& BEYOND**



Maternal Health Summit

Improving Cardiovascular Health

Diana E. Ramos, MD, MPH, MBA
California Surgeon General

May Lee State Complex
February 20, 2025

Objectives

- Understand the impact of cardiovascular health across the lifespan
- Highlight cardiovascular programs already working to improve cardiovascular health



Maternal Health Summit

Improving Cardiovascular Health

Agenda

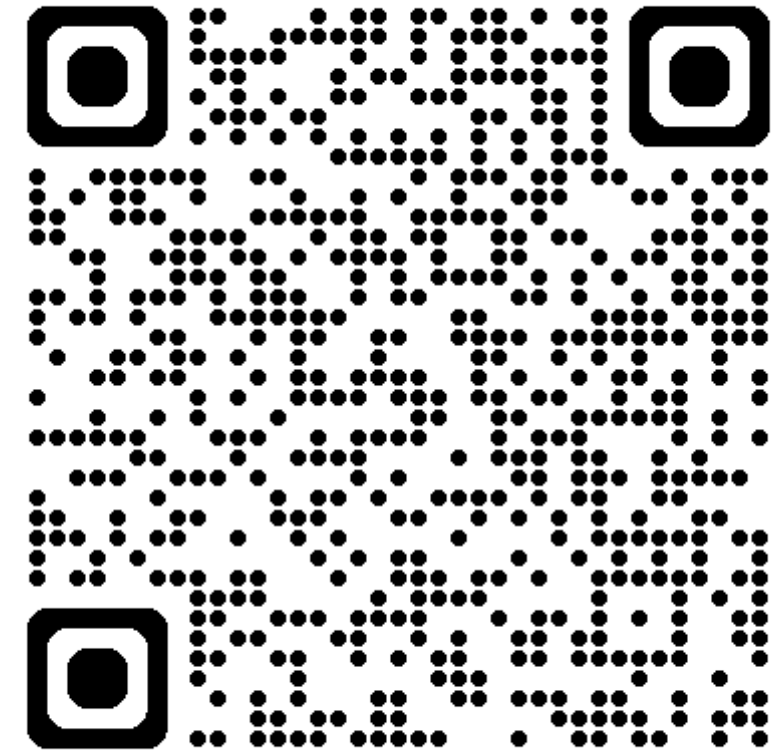
9:00 AM – 10:00 AM | Opening Remarks

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11:30 AM – 12:00 PM | Breakout Session Highlights







MATERNAL CARDIOVASCULAR HEALTH

CA Surgeon General Maternal Health Summit: Improving Cardiovascular Health

Afshan Hameed, MD, MBA, FACOG, FACC

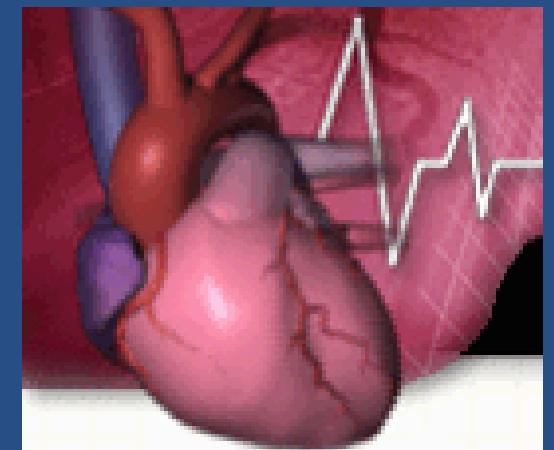
Professor OB/GYN, Division of Maternal Fetal Medicine

Professor, Division of Cardiology

Director, Division of Maternal Fetal Medicine

Director, Cardio-Obstetrics Program

February 20, 2025



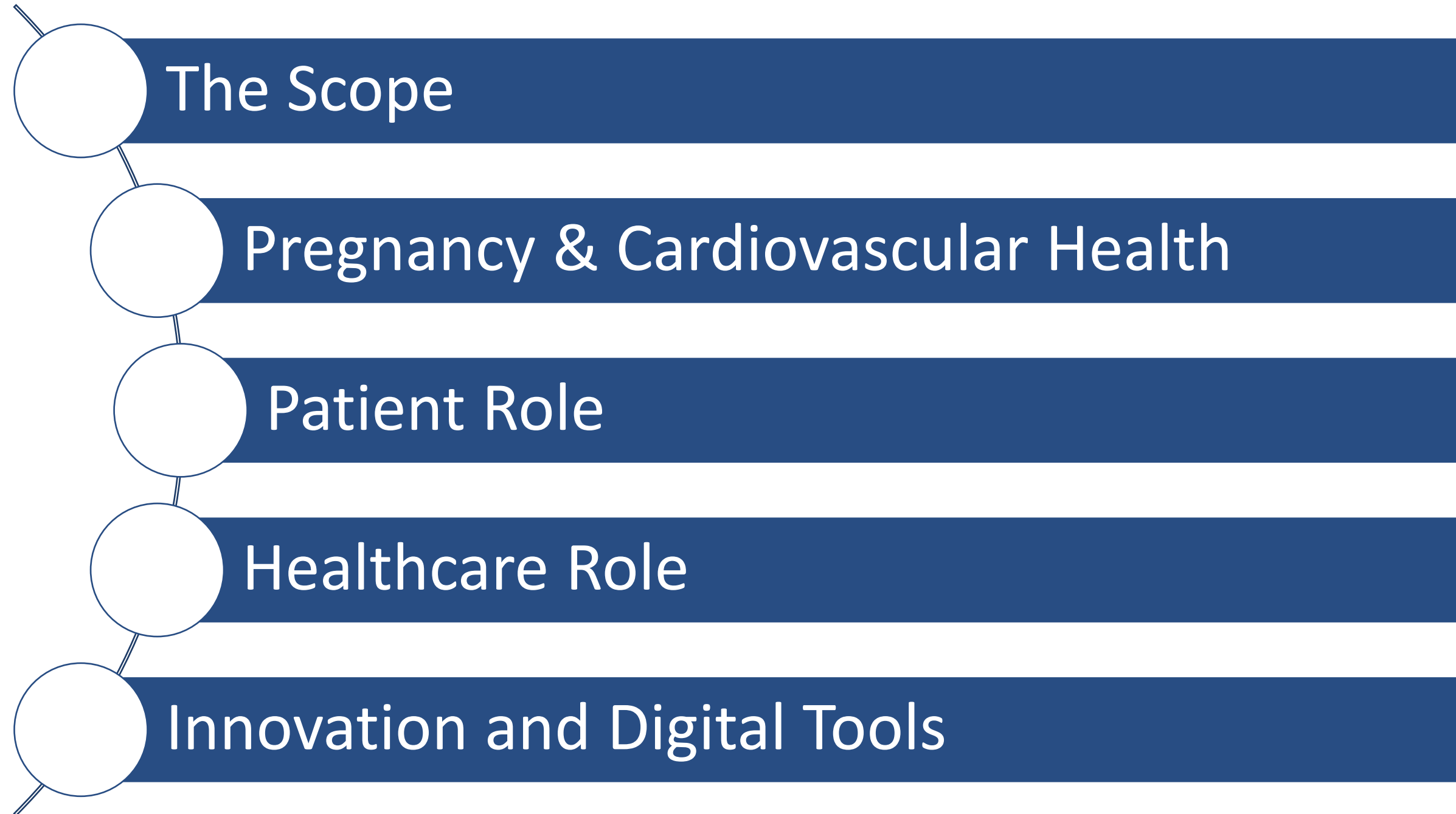
Disclosures:

No relevant or material financial interests to disclose.

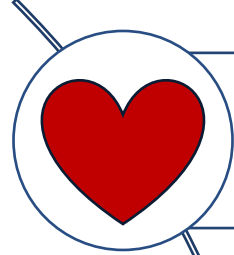
Funding:

Gordon and Betty Moore Foundation, Diagnostic Excellence Initiative, Award GBMF9055.01
National Institute of Child Health and Human Development Study #5R21HD101783.

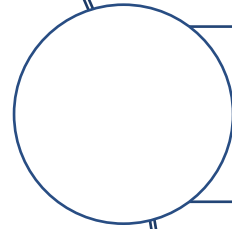
Maternal Cardiovascular Health



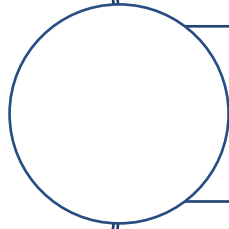
Maternal Cardiovascular Health



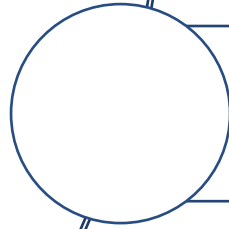
The Scope



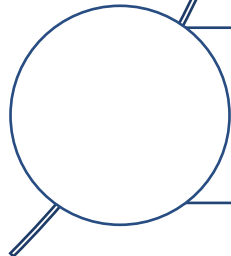
Pregnancy & Cardiovascular Health



Patient Role



Healthcare Role



Innovation and Digital Tools

UNITED STATES



4.2% of women (≥18 years)

Age-adjusted prevalence, 2019



CALIFORNIA



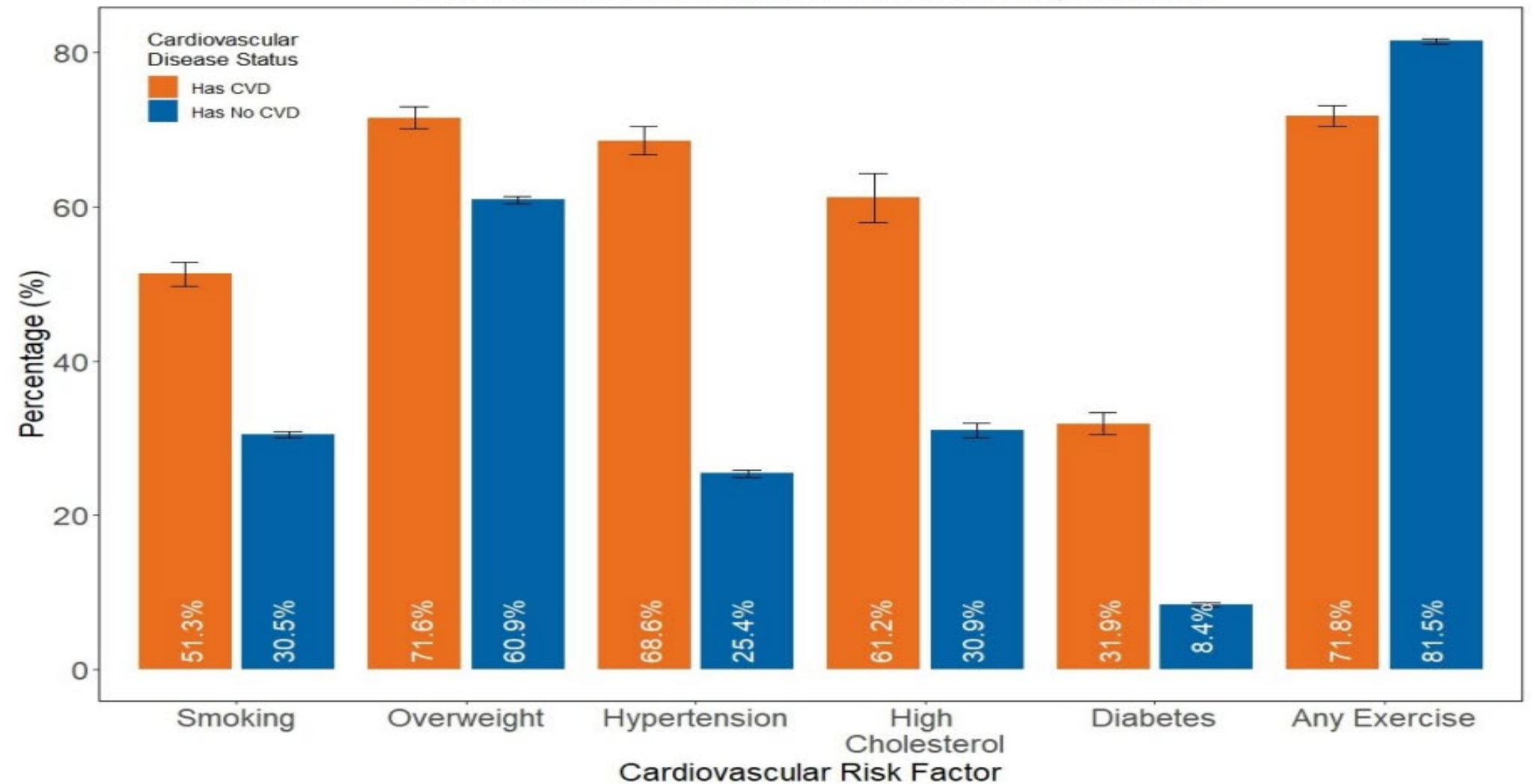
**5.2% of women
(≥18 years)**

Age-adjusted prevalence 2015-2019

CARDIOVASCULAR DISEASE PREVALENCE

CARDIOVASCULAR DISEASE

Figure 3. Prevalence of Risk Factors by Cardiovascular Disease Status in California Adults, 2015-2019



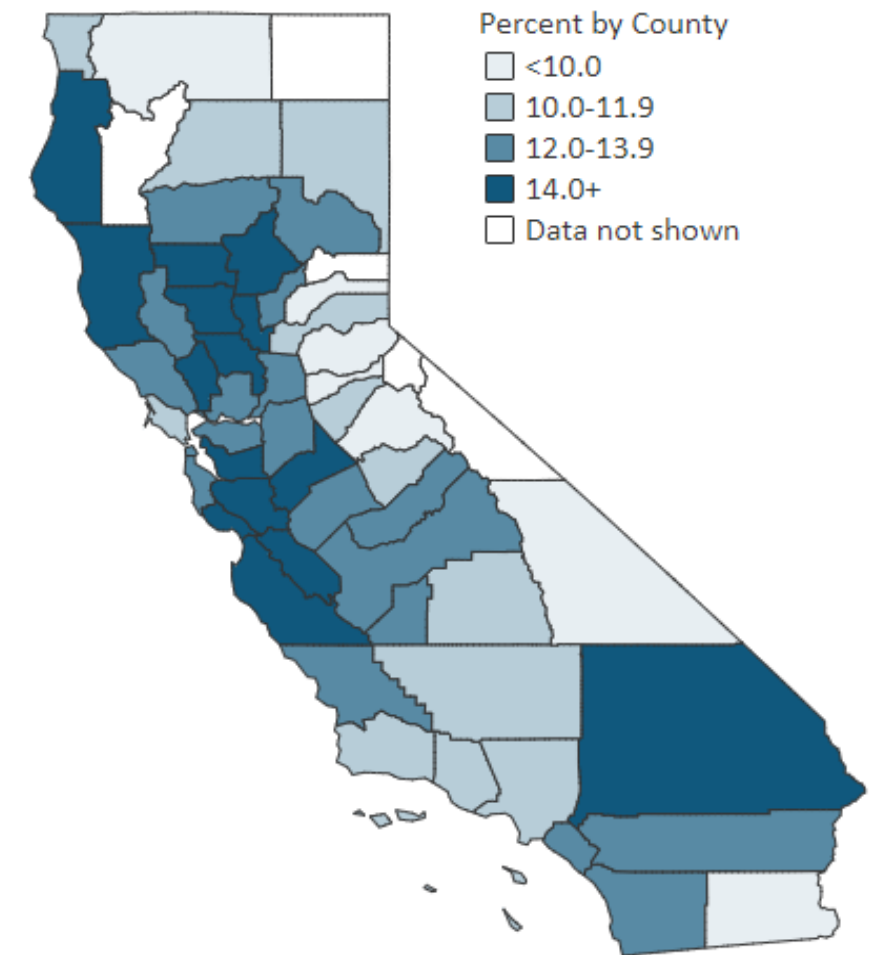
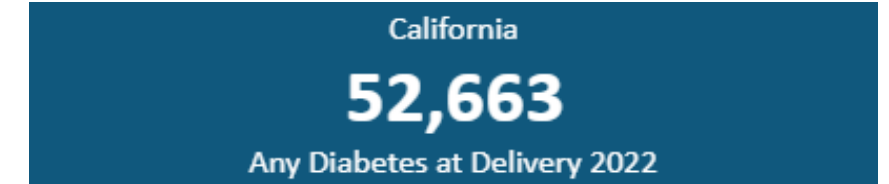
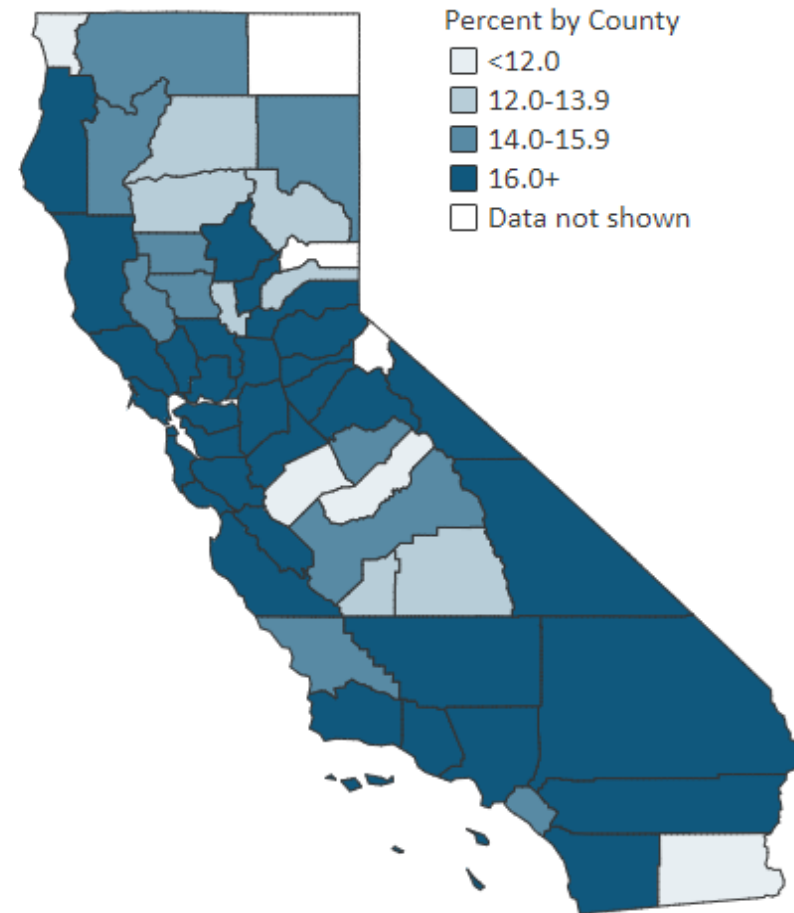
**Prepared by the California Department of Public Health, Chronic Disease Surveillance and Research Branch*

RISK FACTORS

1. Hypertension
2. Diabetes
3. High cholesterol
4. Overweight/obesity
5. Smoking
6. Lack of exercise

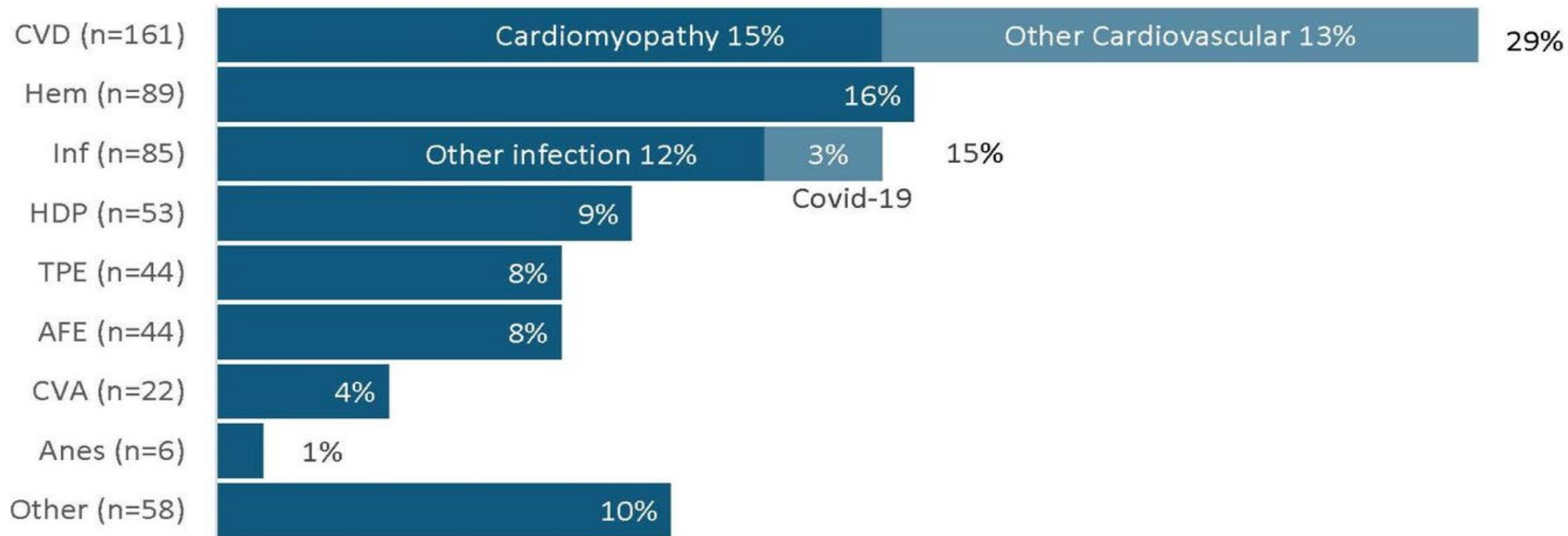
CVD RISK FACTORS IN PREGNANCY & POSTPARTUM

- Advanced Maternal Age
- Hypertension
- Diabetes
- Obesity
- Congenital Heart Disease



IMPORTANCE OF UNDERSTANDING CVD RISK DURING PREGNANCY & POSTPARTUM

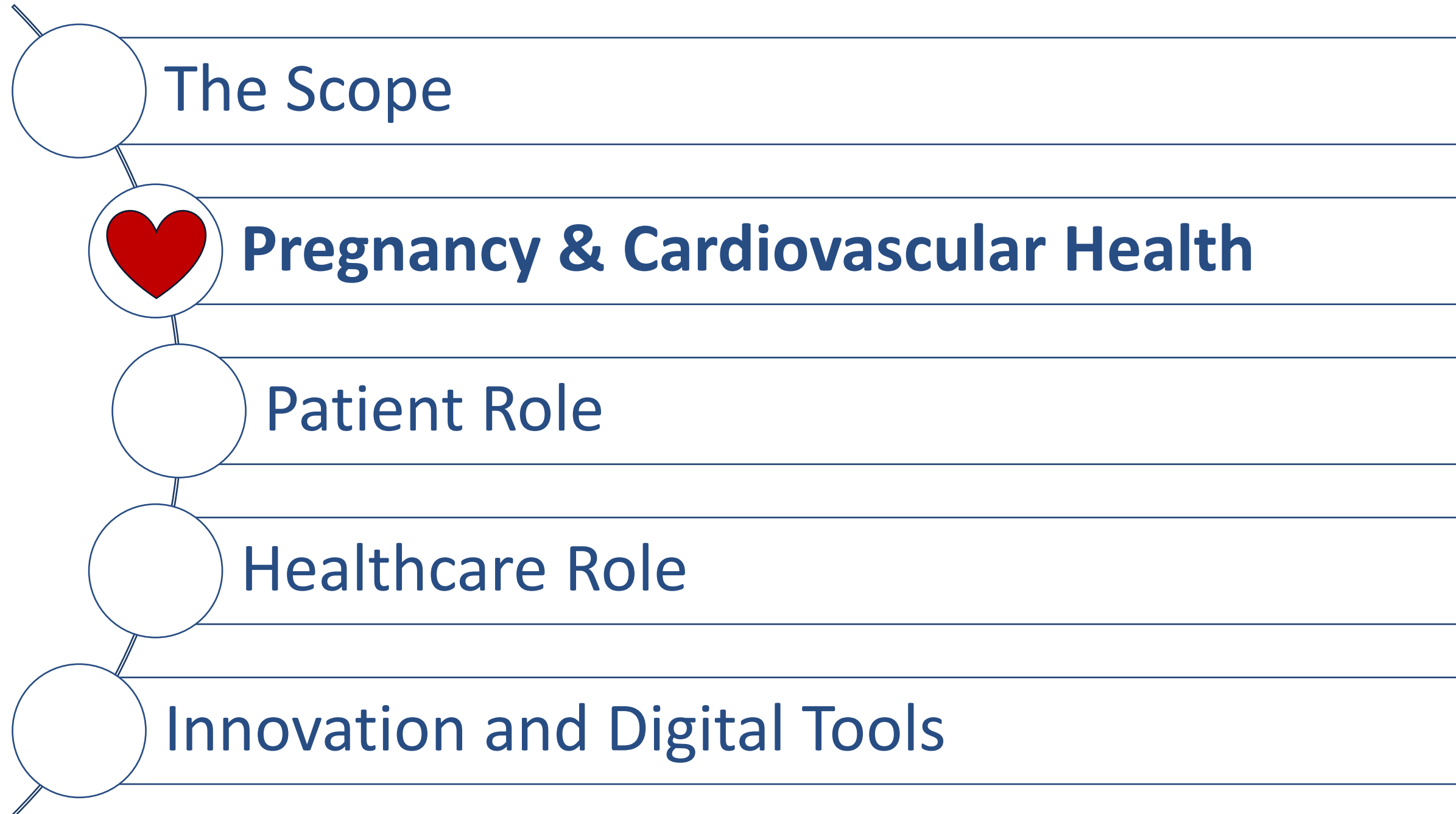
Pregnancy-Related Deaths by Cause California 2012-2020 (N=564)



Pregnancy-related deaths include deaths within a year of pregnancy from causes related to or aggravated by the pregnancy or its management, as determined by expert committee review. Abbreviations: CVD = Cardiovascular disease; Hem = Hemorrhage; Inf = Sepsis or infection; HDP = Hypertensive disorders of pregnancy; AFE = Amniotic fluid embolism; TPE = Thrombotic pulmonary embolism; CVA = Cerebrovascular accident; Anes = Anesthesia complications; Other = Other medical condition(s). *Note: Deaths with undetermined cause were excluded from analysis (n=2).*



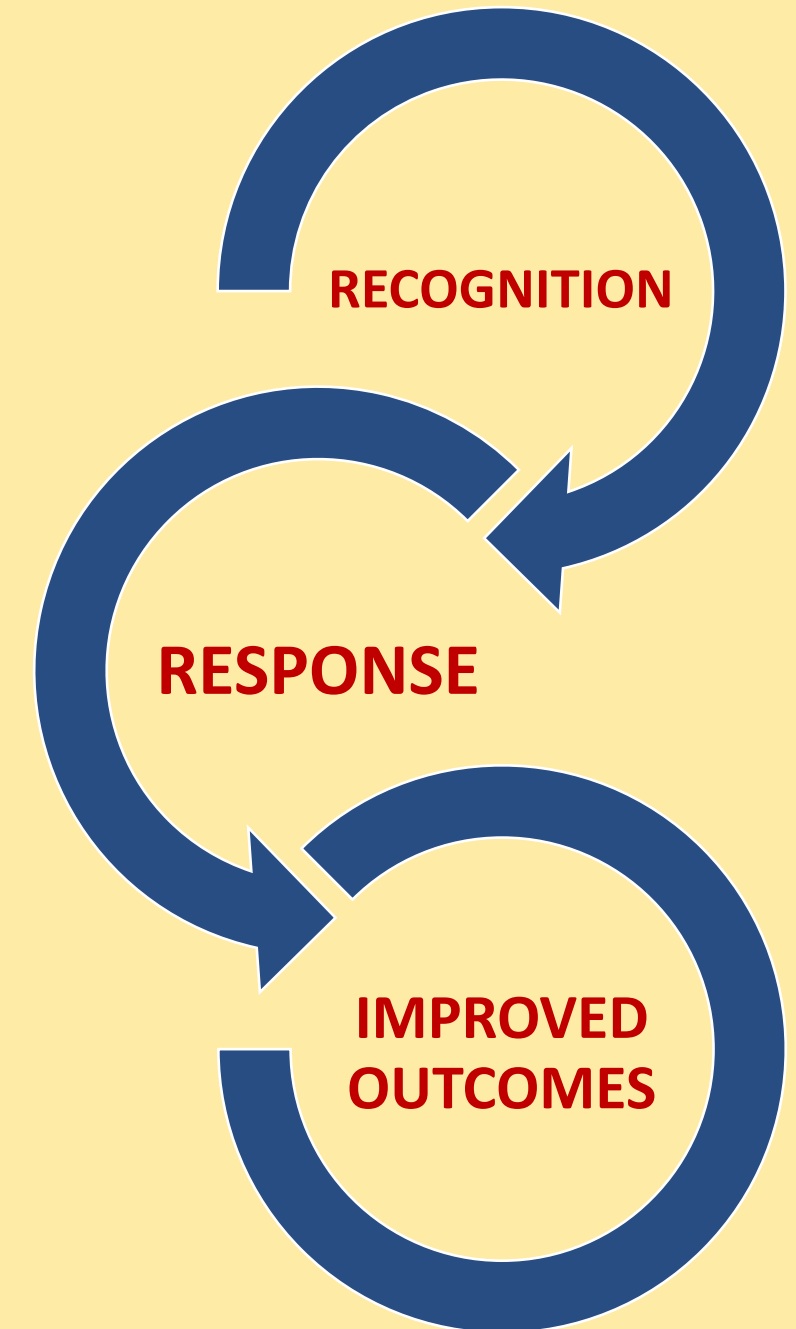
Maternal Cardiovascular Health

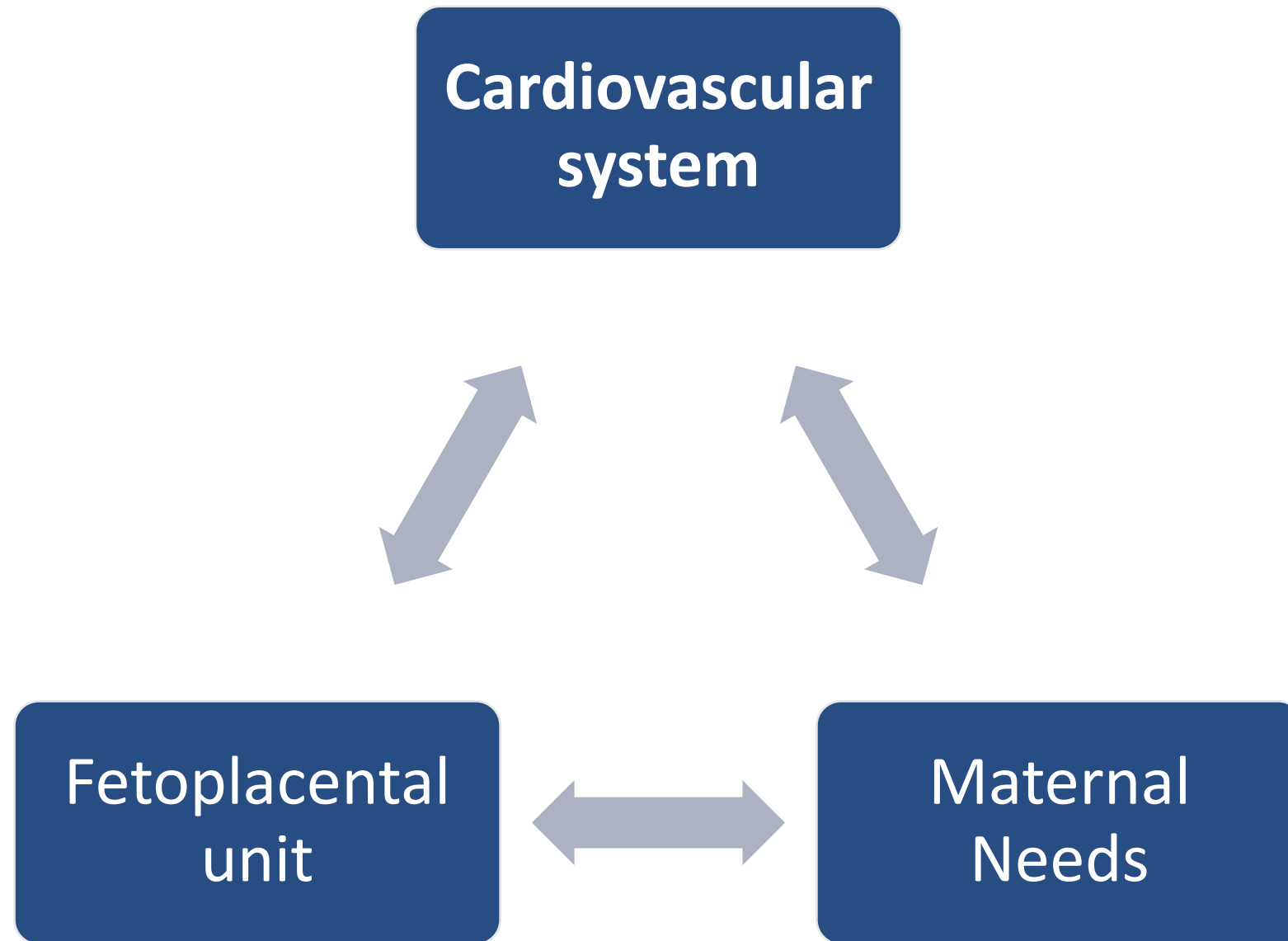


Maternal Cardiovascular Health

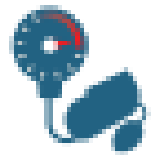


CA Surgeon General Maternal Health Summit: Improving Cardiovascular Health





ADVERSE PREGNANCY OUTCOMES & FUTURE CVD RISK



HIGH BLOOD PRESSURE

5-10% of all pregnant women



GESTATIONAL DIABETES

7-14% of all pregnancies



PRETERM BIRTH

11.5% of babies were born preterm in 2012.

Can include:

- ♥ Gestational hypertension
- ♥ Preeclampsia
once known as Pregnancy Induced Hypertension (PIH) and Toxemia
- ♥ Eclampsia
- ♥ HELLP syndrome



If you had **PREECLAMPSIA**, you have **2x** the risk of stroke, heart muscle damage, or blood clot and **4x** the risk of developing high blood pressure for the rest of your life!



Mothers who had gestational diabetes are more likely to have the condition again in a future pregnancy.



If you had **GESTATIONAL DIABETES**, you are **50%** more likely to develop Type II diabetes within 5 years, putting you at higher risk for heart disease.



Babies born before 37 completed weeks of pregnancy are preterm, or premature.



Women with **PRETERM BIRTH AND PREECLAMPSIA** have an **8-10x** higher chance of death from heart disease.



**KNOWN CARDIOVASCULAR
DISEASE**

**PLACENTAL DISEASES &
PREGNANCY COMPLICATIONS**

**PREVIOUSLY UNKNOWN OR NEW
ONSET CARDIOVASCULAR DISEASE**

PREGNANCY IS A WINDOW TO FUTURE CARDIOVASCULAR HEALTH



Maternal Cardiovascular Health





HEALTH ADVOCACY & LITERACY

ACTT for safe motherhood are steps you can take to advocate for your values and preferences when making decisions about your pregnancy and birth.

- **Ask Questions Until You Understand the Answers**
- **Claim Your Space – Physical and Mental**
- **Trust Your Body**
- **Tell Your Story**



blackcoalitionforsafemotherhood.org

HEALTH ADVOCACY & LITERACY

Questions to consider:



- ☐ What is my risk of heart disease based on my family history risk factors?
- ☐ How can I optimize my risk factors?
- ☐ What type of tests can be done to detect heart disease?
- ☐ What symptoms should I watch out for?
- ☐ How can I optimize my health prior to pregnancy?

HEALTH ADVOCACY & LITERACY

Life's Essential 8 are eight steps everyone should take to achieve ideal cardiovascular health, as defined by the American Heart Association (AHA).



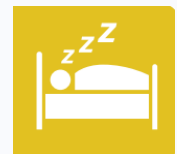
Eat Better



Be More Active



Quit Tobacco



Get Healthy Sleep



Manage Weight



Control Cholesterol



Manage Blood Sugar



Manage Blood Pressure

HEALTH LITERACY

Use AHA's **My Life Check**, an online tool to assess your own heart health and better understand your risk for heart disease and stroke based on the science of **Life's Essential 8**

mlc.heart.org



American Heart Association.

My Life Check®

LEARN AND TAKE CHARGE OF YOUR HEART HEALTH

My Life Check is a health assessment and improvement tool that encourages you to take actions and form habits to move toward ideal heart health.

How it works:

1. Complete your assessment.
2. See how you're doing.
3. Get recommendations to make improvements and track your progress.
4. Set a goal and create new habits!

[Get Started](#)

[Sign In](#)

RESOURCES: ADVERSE PREGNANCY OUTCOMES & FUTURE CVD RISK

If you had complications in pregnancy, you can lower your risk:

New Mothers



See your health care provider 3-6 months after birth to check your overall physical health. Discuss your pregnancy and any complications you experienced.



Get a copy of your pregnancy and post-delivery medical records to share with your providers for the rest of your life. Don't wait – records may be destroyed.



Breastfeed as long as possible. Women whose total lifetime breastfeeding is 6-12 months were 10% less likely to develop heart disease (and it's good for baby too).

If you had one of these complications, speak with your provider when planning your next pregnancy to optimize your health.



REMEMBER!

It's a **MYTH** that **ALL** pregnancy related high blood pressure and gestational diabetes complications go away after the baby is born!

Get more information and stay heart healthy.

www.cmqcc.org

Mothers With Kids Over One Year



Get annual checkups and be screened for heart disease. At this visit, your provider should check your overall physical condition.



Ask your provider what your test results mean and how you can lower your heart disease risk.

These screening numbers show desirable results.

Blood Pressure	< 120/80 mm hg	Fasting Blood Glucose	< 100 mg/dl
Total Cholesterol	< 200 mg/dl	Body Mass Index	< 25 kg/m2



Try a mobile app to automatically retrieve and store your medical records, so you always have them handy.



Eat healthy! A diet low in salt, fat, cholesterol and sugar can help you lower your risk for obesity, diabetes and heart disease.



Maintain a healthy weight. Body Mass Index (BMI) is an estimate of body fat based on height and weight. Less than 25 is healthy.



Get active for 30 minutes a day, or as recommended by your provider.



If you smoke, make a plan to quit. Your provider may have resources to support you.



Take medications as directed. Sometimes a healthy diet and exercise is not enough to lower your risk for heart disease, so your provider may prescribe medications to help.



SISTER TO SISTER
The Women's Heart Health Foundation

CMQCC
CALIFORNIA MATERNAL
QUALITY CARE COLLABORATIVE

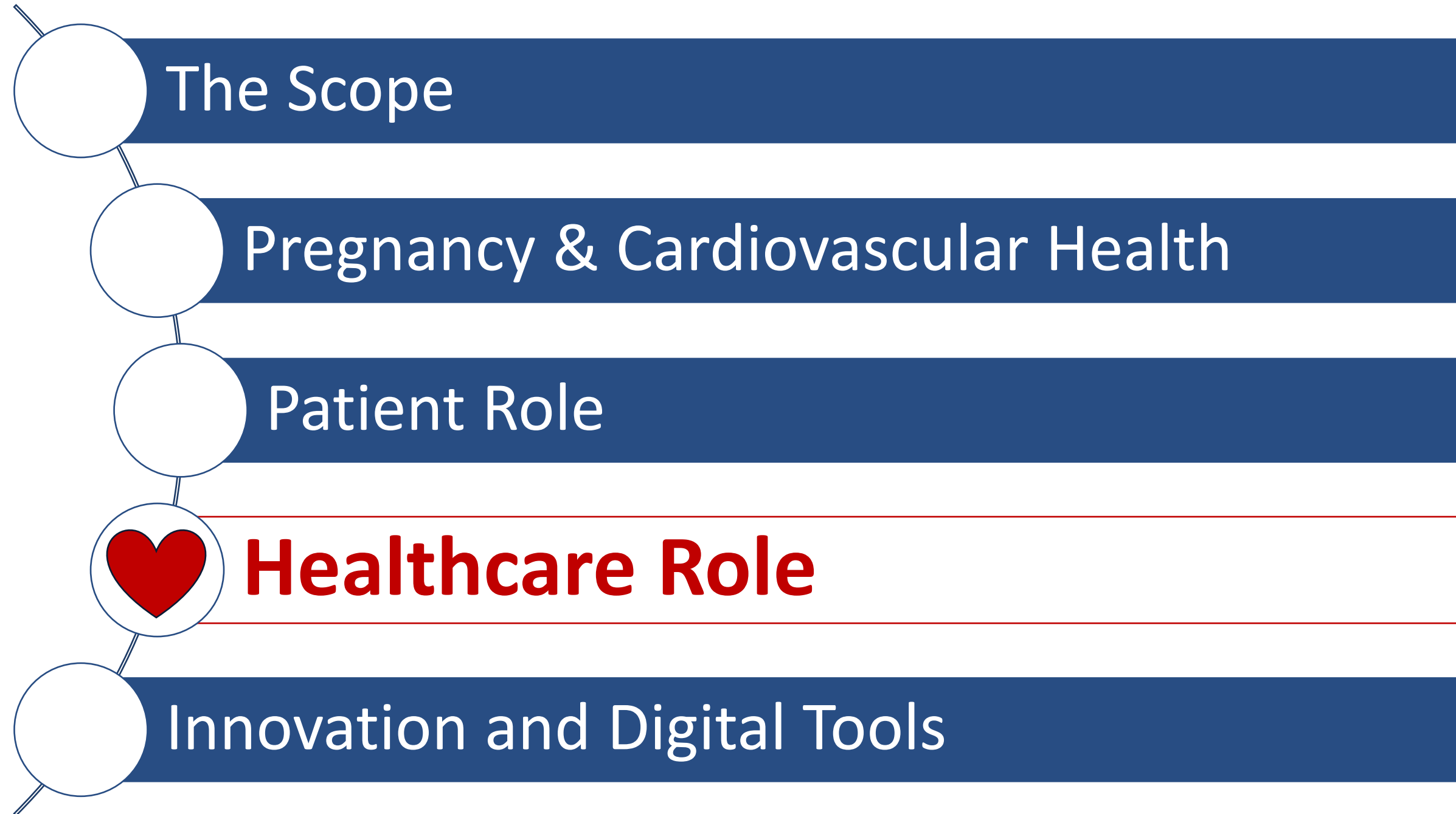


CVD risk
during
Pregnancy

CVD risk
after
Pregnancy



Maternal Cardiovascular Health

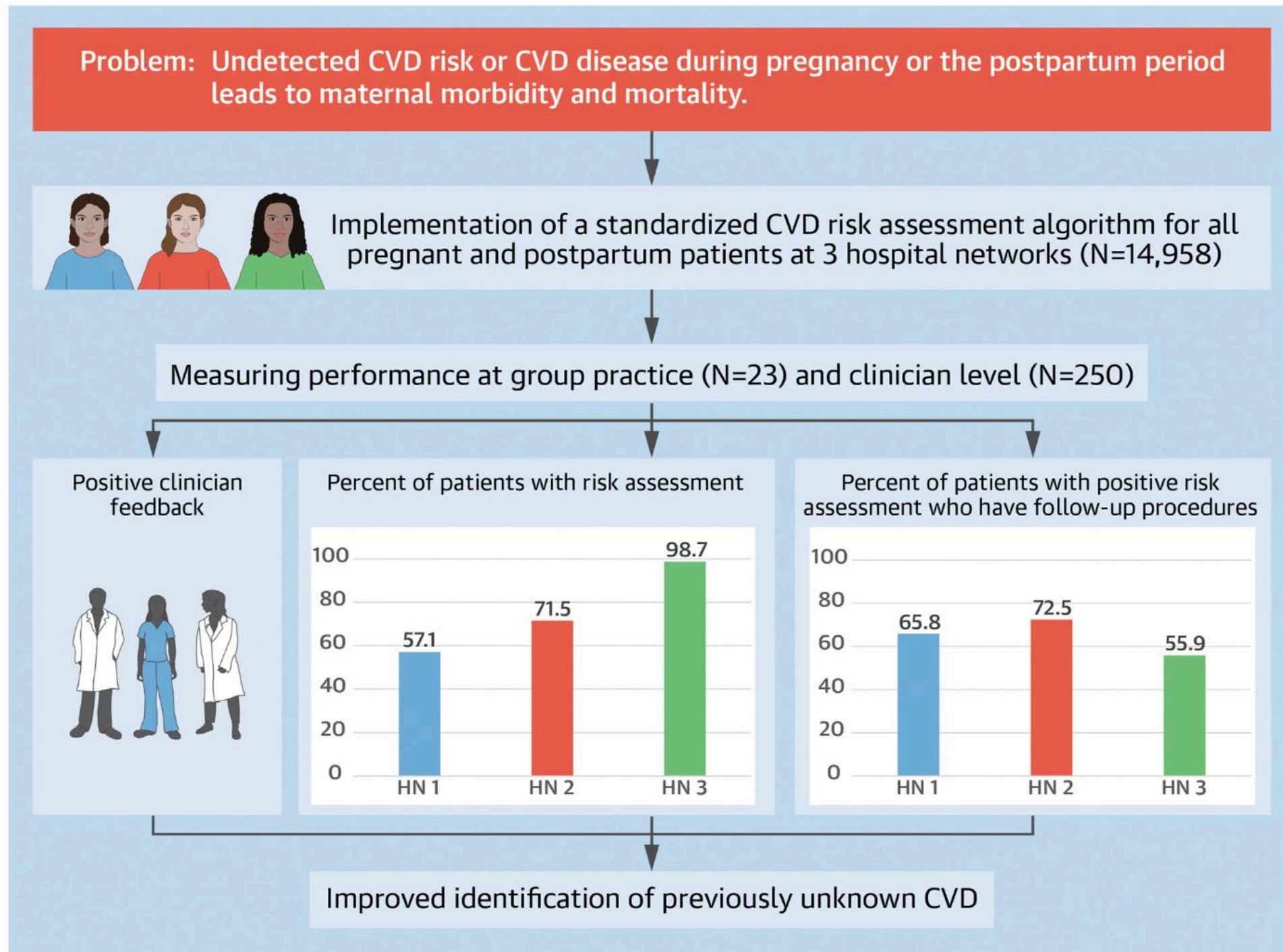


AHA POLICY STATEMENT

Call to Action: Maternal Health and Saving Mothers: A Policy Statement From the American Heart Association

Laxmi S. Mehta, MD, FAHA, Chair, Garima Sharma, MD, Vice Chair, Andreea A. Creanga, MD, PhD, Afshan B. Hameed, MD, Lisa M. Hollier, MD, Janay C. Johnson, MPH, Lisa Leffert, MD, Louise D. McCullough, MD, Mahasin S. Mujahid, PhD, MS, FAHA, Karol Watson, MD, FAHA, Courtney J. White, Esq, and on behalf of the American Heart Association Advocacy Coordinating Committee





Hameed AB, et al. JACC Adv. 2023;2(1):100176.

HEALTHCARE PROVIDER ROLE



Maintain high level of suspicion of CVD during pregnancy and postpartum

- Pregnancy vs. CVD symptoms



Use evidence-based tools to stratify patients based on CVD risk

- CVD Risk Assessment Tool developed by the California Maternal Quality Care Collaborative (CMQCC)



Encourage holistic and multidisciplinary care teams

- Including midwives and doulas



Listen to your patients

- Listen to understand and do not dismiss their bodily experiences

BENEFITS OF CVD RISK ASSESSMENT IN PREGNANCY

IDENTIFICATION OF HIGH-RISK PATIENTS

- Further cardiac testing
- Appropriate follow up

PATIENT AND PROVIDER AWARENESS AND EDUCATION

- Healthcare provider to include CVD in the differential diagnosis
- Patient more likely to seek timely medical care

OPPORTUNITY TO MODIFY RISK FACTORS

- Prevention of CVD in future
- Improved maternal and fetal outcomes
- Healthier choices



POSTPARTUM CARE BEYOND 6 WEEKS

Current recommendations from the **American College of Obstetricians and Gynecologists (ACOG)** state that postpartum care should be an ongoing process rather than a single encounter.



American Heart Association (AHA) reported that patients with hypertensive disorders of pregnancy require **ongoing individualized care, including blood pressure monitoring and lipid and glucose assessments beyond the conventional postpartum period**. The AHA also states that postpartum is an ideal time to engage patients and discuss long-term CVD risks that were exacerbated by adverse pregnancy outcomes (APO).



In 2017, the California Maternal Quality Care Collaborative Task Force published their CVD in Pregnancy and Postpartum Toolkit which demonstrated that CVD in pregnant and postpartum patients **could be prevented over the lifetime**.



NON-MEDICAL SUPPORT SYSTEMS & COMMUNITY-BASED ORGANIZATIONS

Doulas



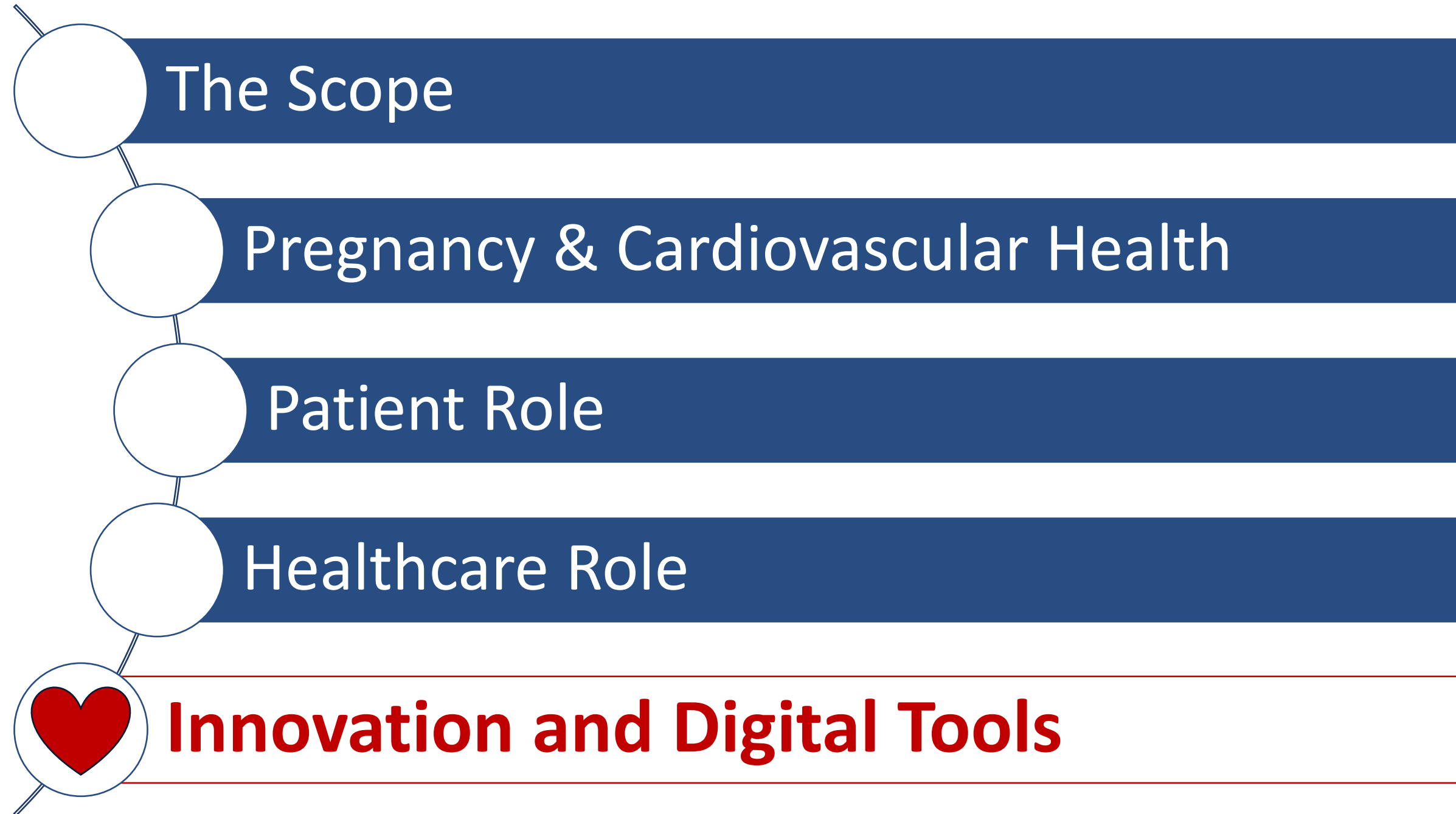
Lactation Support Services



Case-Management & Home Visiting Programs



Maternal Cardiovascular Health



CMQCC Cardiovascular Disease Toolkit

The CVD Toolkit was developed by CMQCC at Stanford University under contract with CDPH with funding from a federal Title V MCH Block grant.



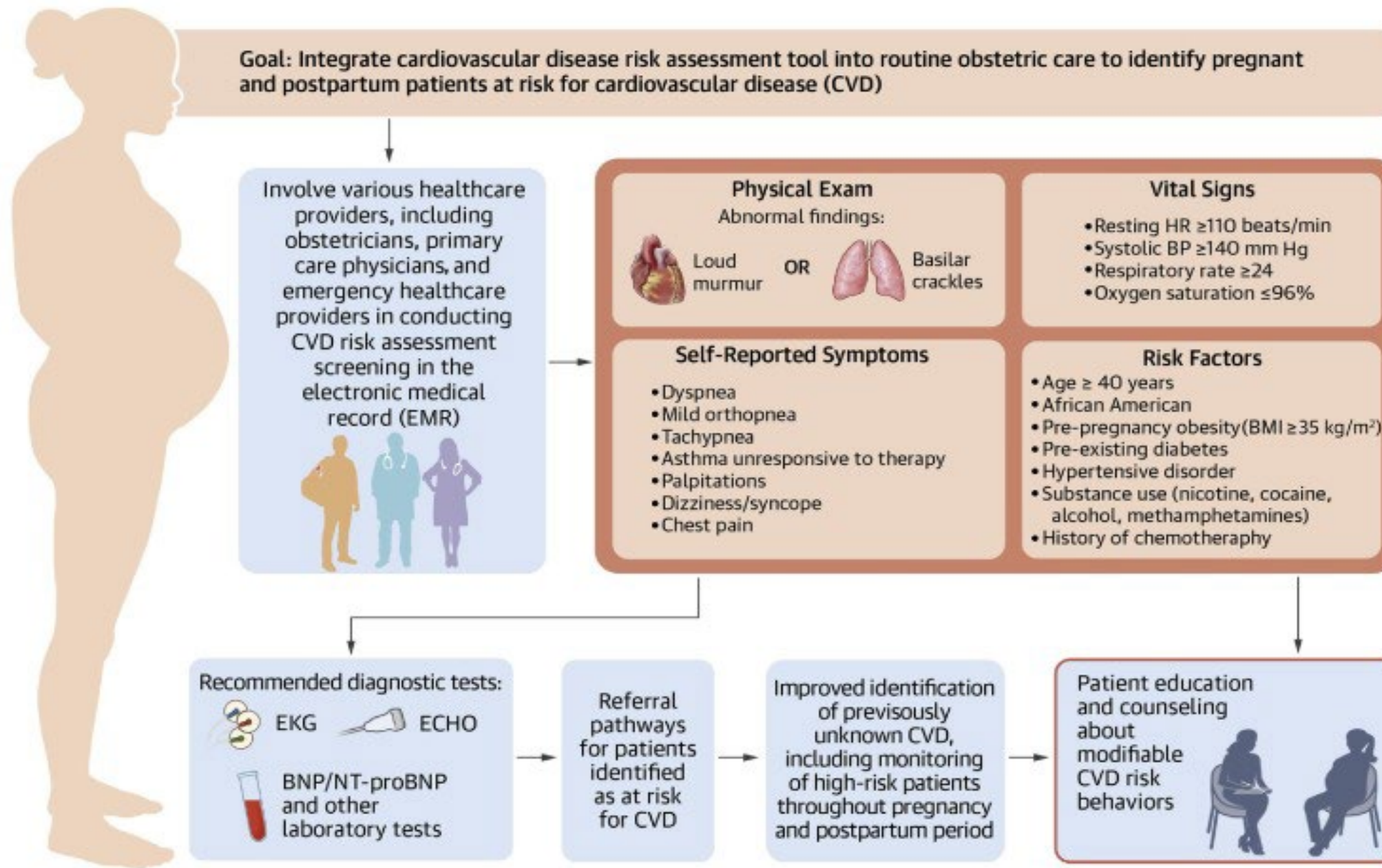
Algorithm validated
64 CVD deaths.



Detection rate 93% in
symptomatic cases
Identified as **screen-positive**
or high risk for CVD.

CMQCC
California Maternal
Quality Care Collaborative

CENTRAL ILLUSTRATION: Universal Cardiovascular Disease Risk Assessment in Pregnancy and Postpartum



Hameed AB, et al. JACC Adv. 2024;3(8):101055.

TRANSFORMING MATERNAL CARE

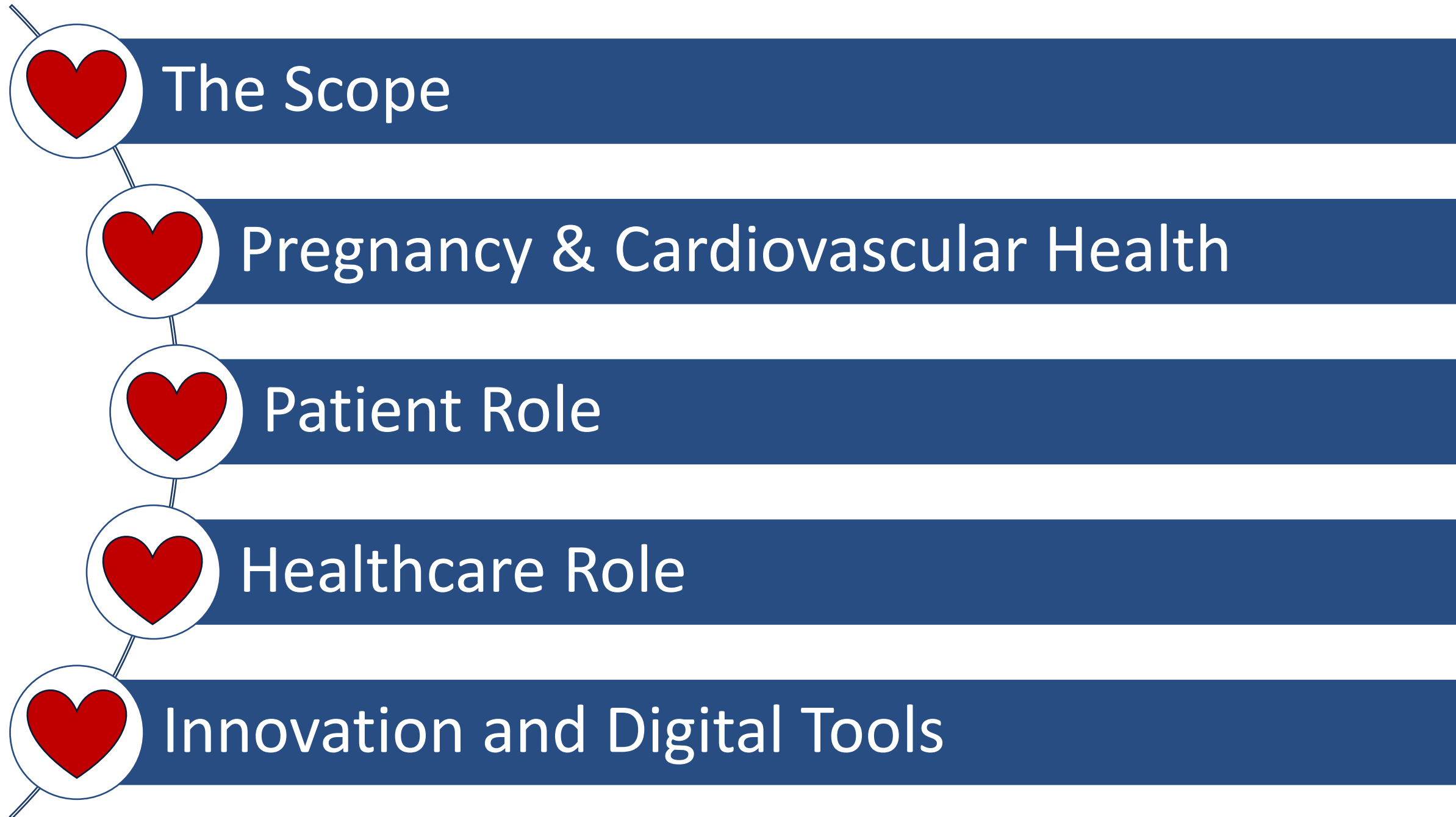
Self-advocacy

Healthcare Provider
Role

Postpartum Care
Beyond 6 Weeks

Non-medical
Support Systems

Maternal Cardiovascular Health





Mothers often have a crucial leadership role within their households, shaping not only their own health decisions but also influencing those of their family members

Enhancing maternal health is vital for the overall well-being of the entire family unit and communities

THANK YOU!



ahameed@hs.uci.edu

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Agenda

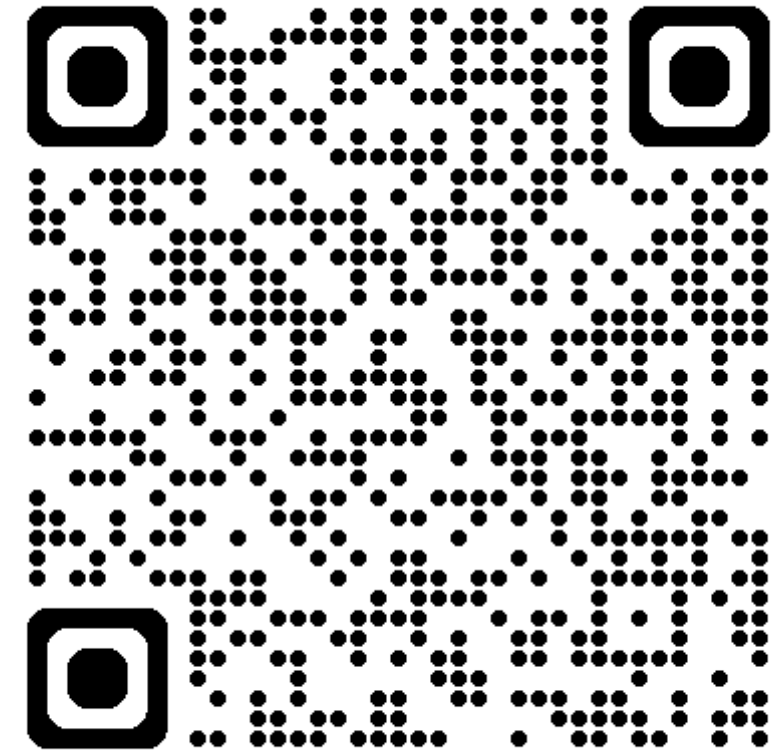
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Breakout Sessions



Healthcare
Delivery

Community
Setting

Technology

Maternal Health Summit

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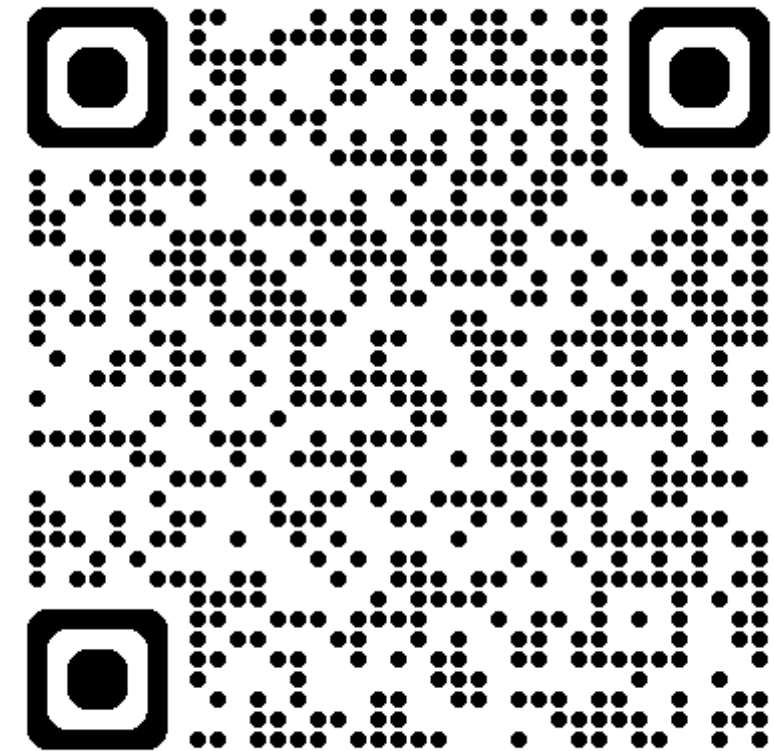
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Office of the
California Surgeon
General



Brittany Mbong
BLACK Wellness and
Prosperity Center



Holly Morrell
Heartfelt Cardiac
Connections



Stephen Bruso
Morningside Ventures